

## WHAT IS CLAIMED IS:

1. A recombinant adenoviral vector of serotype 24 which is at least partially deleted in E1 and devoid of E1 activity.
2. A population of cells comprising the recombinant adenoviral vector of claim 1.
3. A method for producing recombinant, replication-defective adenovirus particles comprising:
  - (a) transfecting a recombinant adenoviral vector of claim 1 into a population of cells; and
  - (b) harvesting the resultant recombinant, replication-defective adenovirus.
4. Purified recombinant, replication-defective adenovirus particles harvested in accordance with the method of claim 3.
5. A composition comprising purified recombinant adenovirus particles in accordance with claim 4.
6. A composition in accordance with claim 5 which comprises a physiologically acceptable carrier.
7. A recombinant adenoviral vector of serotype 24 which is at least partially deleted in E1 and devoid of E1 activity which comprises heterologous nucleic acid.
8. A population of cells comprising the recombinant adenoviral vector of claim 7.
9. A method for producing recombinant, replication-defective adenovirus particles comprising:
  - (a) transfecting a recombinant adenoviral vector of claim 7 into a population of cells; and
  - (b) harvesting the resultant recombinant, replication-defective adenovirus.

10. A recombinant vector in accordance with claim 7 wherein the vector comprises a gene expression cassette comprising:

- (a) a nucleic acid encoding a protein;
- 5 (b) a heterologous promoter operatively linked to the nucleic acid encoding the protein; and
- (c) a transcription termination sequence.

11. A recombinant vector in accordance with claim 10 wherein the gene  
10 expression cassette is inserted into the E1 region.

12. A recombinant vector in accordance with claim 7 wherein the heterologous nucleic acid comprises codons optimized for expression in a human host.

13. A recombinant vector in accordance with claim 7 which comprises  
15 heterologous nucleic acid in the E1 deletion.

14. A recombinant vector in accordance with claim 7 which is at least  
20 partially deleted in E3.

15. Purified recombinant, replication-defective adenovirus particles harvested  
in accordance with the method of claim 9.

16. A composition comprising purified recombinant adenovirus particles in  
25 accordance with claim 9.

17. A composition in accordance with claim 16 which comprises a physiologically acceptable carrier.

18. A method for effecting the delivery and expression of heterologous  
30 nucleic acid comprising administering the composition of claim 16 prior or subsequent to administration of the heterologous nucleic acid with the same or different vector.

19. A method in accordance with claim 18 wherein the composition is preceded or followed by administration of heterologous nucleic acid with an adenovirus of a different serotype.

5 20. A composition in accordance with claim 16 wherein the heterologous nucleic acid encodes an HIV antigen.

21. A method for generating a cellular-mediated immune response against HIV in an individual comprising administering to the individual a composition of claim 20.

10 22. A composition in accordance with claim 21 wherein the HIV antigen is HIV-1 gag or immunologically relevant modification thereof.

23. A composition in accordance with claim 21 wherein the HIV antigen is  
15 HIV-1 nef or immunologically relevant modification thereof.

24. A composition in accordance with claim 21 wherein the HIV antigen is HIV-1 pol or immunologically relevant modification thereof.

20 25. A recombinant adenoviral vector of serotype 24 which is at least partially deleted in E1 and devoid of E1 activity which comprises an HIV-1 gene.

26. A population of cells comprising the recombinant adenoviral vector of  
claim 25.

25 27. A method for producing recombinant, replication-defective adenovirus particles comprising:

(a) transfecting a recombinant adenoviral vector of claim 25 into a population of  
cells; and

30 (b) harvesting the resultant recombinant, replication-defective adenovirus.

28. Purified recombinant, replication-defective adenovirus particles harvested in accordance with the method of claim 27.

29. A composition comprising purified recombinant adenovirus particles in accordance with claim 28.

5 30. A composition in accordance with claim 29 which comprises a physiologically acceptable carrier.

10 31. A method for effecting the delivery and expression of the HIV-1 gene comprising administering the composition of claim 30 prior or subsequent to administration of the HIV-1 gene with the same or different vector.

32. A method in accordance with claim 31 wherein the composition is preceded or followed by administration of the HIV-1 gene with an adenovirus of a different serotype.

15 33. A method for generating a cellular-mediated immune response against HIV in an individual comprising administering to the individual a composition of claim 29.

20 34. A composition in accordance with claim 29 wherein the HIV antigen is HIV-1 gag or immunologically relevant modification thereof.

35. A composition in accordance with claim 29 wherein the HIV antigen is HIV-1 nef or immunologically relevant modification thereof.

25 36. A composition in accordance with claim 29 wherein the HIV antigen is HIV-1 pol or immunologically relevant modification thereof.

37. A method for inducing an enhanced immunological response against an HIV-1 gag antigen in a mammalian host, said method comprising the steps of:

30 (a) inoculating the mammalian host with a recombinant adenoviral vector of serotype 5 which is at least partially deleted in E1 and devoid of E1 activity comprising a gene encoding an HIV-1 gag antigen or immunologically relevant modification thereof; and thereafter

(b) inoculating the mammalian host with a boosting inoculation comprising a recombinant adenoviral vector of serotype 24 which is at least partially deleted in E1 and devoid

of E1 activity comprising a gene encoding an HIV-1 gag antigen or immunologically relevant modification thereof.

38. A method for inducing an enhanced immunological response against an HIV-1 gag antigen in a mammalian host, said method comprising the steps of:
- (a) inoculating the mammalian host with a recombinant adenoviral vector of serotype 6 which is at least partially deleted in E1 and devoid of E1 activity comprising a gene encoding an HIV-1 gag antigen or immunologically relevant modification thereof; and thereafter
  - (b) inoculating the mammalian host with a boosting inoculation comprising a recombinant adenoviral vector of serotype 24 which is at least partially deleted in E1 and devoid of E1 activity comprising a gene encoding an HIV-1 gag antigen or immunologically relevant modification thereof.

39. A method for inducing an enhanced immunological response against an HIV-1 gag antigen in a mammalian host, said method comprising the steps of:
- (a) inoculating the mammalian host with a recombinant adenoviral vector of serotype 24 which is at least partially deleted in E1 and devoid of E1 activity comprising a gene encoding an HIV-1 gag antigen or immunologically relevant modification thereof; and thereafter
  - (b) inoculating the mammalian host with a boosting inoculation comprising a recombinant adenoviral vector of serotype 5 which is at least partially deleted in E1 and devoid of E1 activity comprising a gene encoding an HIV-1 gag antigen or immunologically relevant modification thereof.